

any special moving of users to a new DECIMAL area code, just move to the HEXADECIMAL parts of the existing line numbers and prefixes and area codes that WE ALREADY HAVE! Under the HEXADECIMAL system, line numbers for all exchanges go from 10,000 to 65,536 for free and at no cost to the PHONE company or the PUBLIC and the NUMBERS are both dial-able on existing PHONE pads and by computer on all systems in use today. Only this Proposal offers a plan that will assist NANP by extending the projected exhaust to 100 plus years or more, a very long time, indeed. I should win the no bell prize for this solution, or at least lunch!

123. CURRENT STATE LEGISLATION - Legislation, if amended, MAY order the CPUC to create a new class of service to be known as, INDUSTRY. Furthermore, the CPUC may be ordered to require ALL PHONE COMPANIES doing business in this state, now or in the future, to offer the INDUSTRY class of PHONE service. The word INDUSTRY is preferred over Industrial since it suggests a foundry instead of all kinds of different Industries as in the Alarm INDUSTRY, the Pager INDUSTRY and so on.

124. Unlike Business or Residential service, INDUSTRY service can be located in a business along side Business service PHONES and can be located in a residence along side Residential service PHONES. INDUSTRY PHONE service is not to be restricted in any way; this policy is to be mandatory.

125. Unfortunately, the author does not remember the exact phrase, but it goes something like this: "A savings account is never needed until it is too late to begin." We must get this class of service in operation post haste, else we never will get users to avoid use of the other classes of service, in which we are continuing to use up DECIMAL PHONE NUMBERS. Alternatively, by selecting INDUSTRY and HEXADECIMAL PHONE NUMBERS, which we have in existence today, several billion in California alone, all of which are presently going to waste!

126. All HEXADECIMAL PHONE NUMBERS - The INDUSTRY class of service, without regard to where the PHONE line is terminated, is to be designated

as being a part of this Proposal. No difference in monthly fee or installation charges will exist between INDUSTRY PHONE located in a business or residence. The proposed fee for INDUSTRY class of service is to be \$52.00 per year. This is in line with the present offerings of Cox Telephone pricing for a second DECIMAL PHONE line charge at \$5.00 per month. It is full featured, but here, all you get is a line with a dial tone; no listings, no features, no instrument, and you pay for the connector if wanted, period!

127. THE INDUSTRY LINE - You get a line with a dial tone and that's all folks! No PHONE instrument, no 411 listing, no call forwarding, or other features at all, but all calls are to be timed to the second. \$52.00 per year with 100 calls per month included, for computer access to AOL, for alarms (from 0 or 1 to 4 calls or up to 60 one to two second calls per month), elevator phones (one call per month), pagers (in line), faxes (in line). Or a flat rate for credit card verification (thousands of calls) and point of sale applications (30 calls) with unlimited call allowances. All will be argued and decided upon later.

128. PHONE NUMBERS TAKE ON NEW STYLE - Phone numbers like, 619/231-F43C and 6F9/231-1234 and 80B/222-4567, 619/231-#345 or 619/231-*678; NO these are not VANITY LETTERS! Just using a HEXADECIMAL in the line number produces 65,536 NEW PHONE NUMBERS where there were only 10,000 NUMBERS before. If any digit of a number is HEXADECIMAL, then the whole number is HEXADECIMAL. When a person sees the # or * in a number, they know the number is to a fax or pager or voice mail and that the entire 10 digit number must always be dialed.

129. FREE TO USE - THIS IS AT NO COST TO THE PUBLIC OR THE PHONE COMPANIES and the NUMBERS can be located ANYWHERE you need them.

130. PHONE COMPANY INCENTIVE - The phone company will like the idea that the phone service fee is to be paid a year in advance and that the money may be used as the phone company sees fit. Invest it and earn the interest for the Phone Company.

131. In all cases, the fee or charge is to be 20% lower than the lowest fee or charge normally charged for either class of service through the year 2005. This is a part of the necessary PUBLIC incentive to request the use, originally, of HEXADECIMAL NUMBERS and or to encourage migration from existing DECIMAL PHONE NUMBERS to INDUSTRY class of services using HEXADECIMAL PHONE NUMBERS.

132. The 20% discount will be only a small incentive to prod existing established users of DECIMAL PHONE NUMBERS to migrate to the INDUSTRY class of service and the beneficial use of HEXADECIMAL PHONE NUMBERS. As they do migrate, their old DECIMAL NUMBERS will become available on a timely basis for PUBLIC DECIMAL assignment, as for business or residential uses. New users will find the lower rates appealing and will undoubtedly request the INDUSTRY class of service for all subsequent needs.

133. WARNING ABOUT OTHER POSSIBLE APPROACHES - Unlike the idea of requiring several user types (pagers, faxes, etc.) to be placed in special DECIMAL area codes, overlay or not, no long lasting benefit will be realized, because they still provide only 10,000 lines per exchange, and most distressing, this does nothing to support NANP; in fact, this approach continues to consume NUMBERS from the DECIMAL pool, only now, it is from a different end of the same pool!

134. The idea of adding a digit has been proposed. Some would add it to the area code, making it 4 digits long. Others would add the extra digit to the prefix or the line number or even add a digit to the existing 7-digit format to distinguish between various overlay area codes, thus helping ease the burden of 11-digit dialing for each and every number. None comply with NANP! None will succeed for this very reason. Yet, HEXADECIMAL Phone Numbers DO COMPLY with NANP and require no changes in any automatic equipment. This is THE CHOICE by a far margin, nothing else is even close, and BEST OF ALL it is free!

135. INDUSTRY NUMBERS - In contrast, HEXADECIMAL PHONE NUMBERS provide 65,536 lines per exchange and fully supports NAPA by utilizing few, unused NUMBERS, never before available. No new computer needs to be purchased by the PHONE Company to provide service for HEXADECIMAL PHONE NUMBERS. Additionally, only the needed lines are to be built into any exchange and best of all, every exchange benefits from HEXADECIMAL, since every existing exchange can have only as many HEXADECIMAL NUMBERS added as are needed, up to the 65,536 limit per exchange, and they all are at no cost!

136. CONCENTRATED CONTRASTS - Contrasting further these differences, we see that all existing exchanges have today, at no cost, the ability to provide HEXADECIMAL PHONE NUMBERS. In concentrated, high use areas, this advantage allows for building only what is needed and only where it is needed, anywhere using any exchange in any area code. Such geographical diversity at no cost is a very, ultra ultra high cost benefit for both the PHONE companies and the PUBLIC.

137. HEX ON THE BLACK KEYS - Consider the PHONE system to be a piano. The white keys we use, the black keys are ignored. We soon learn there are not enough tones to produce the music we want using only the white keys. My argument is to use the black keys along with the white ones. Furthermore, the black keys are distributed and intermingled with the white keys throughout the octaves of the keyboard. This makes it very easy to use both as we see fit. This is by far the better approach; it is better than adding more new pianos (DECIMAL area codes).

138. DECIMAL IS SUB SET OF HEXADECIMAL - The DECIMAL Numbering system is a sub set of the HEXADECIMAL Numbering system. If you have kids, ask them to explain set theory to you or visit my web site! Consider my PHONE NUMBER: 619/231-1313. Let us examine the sequence using only the last digit: 1310 , 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 131A=0, 131B, 131C, 131D, 131E, 131F, 1320 . See how the NUMBERS 131B to 131F (and 1310 , the 0 on your dial is actually hex A; 1310 refers to true zero) are NOT used in our present DECIMAL PLUS PHONE NUMBER scheme.

We are using hex A=0, B=*, and C=#; so the word PLUS modifies strictly DECIMAL, 0 to 9 to make it into 1 to 9, and A, B, C) the PHONE NUMBER tone ad and the scheme presently in use today.

139. It is like the black keys on the piano, they are adjacent to where we stop using; just ready as can be to reach out and touch someone! When we do use them, the line count goes from 10,000 to 65,536. Wow! Now that is 6 times as many NUMBERS in an exchange. Remember that you only build as many lines as are needed. Some rural areas have only one octave of keys (lines) built in their switch, but as I tell you, just as in the 1313 example, HEXADECIMAL NUMBER lines are there, like the black keys in just one octave, ready to be used and they are FREE!

140. HEXADECIMAL PHONE NUMBER AVAILABILITY - They are available everywhere that there is a PHONE, and since this provides additional revenue for the PHONE company from the otherwise fully utilized plant equipment and it is at no cost, they gain in new value for what was previously fully utilized plant equipment by a factor in excess of 6 fold. Think about it! No new computer need be purchased, we simply use what is already there and working. No new area codes and no new prefixes. Do you think the PHONE Company will give an even better discount for this clear advantage?

141. EXAMPLES OF NUMBERS - Consider the 619/231 exchange in San Diego. This exchange is located in high population downtown San Diego and is fully built and is fully assigned. An estimate is that only 15% of the 10,000 possible DECIMAL NUMBERS are not in use and these rotate between newly shut off service and new installs that will become available for assignment as attrition time expires. Creating the HEXADECIMAL PHONE NUMBERS 231-(0 0 0 0 to FFFF) is completed by installing the needed line cards in the computer bays and attaching lines from the cables serving the area. This expands the 231 exchange from 10,000 to 65,536 PHONE NUMBERS. Only the needed NUMBER of line cards will be installed. Suppose it was decided by the plant manager to "build" only the D0 0 0 to DFFF NUMBERS for now and when filled, add E0 0 0 to EFFF.

142. How nice, build only what is needed anywhere it is needed! Also in this switch room building is the 619/696 exchange. This exchange may be built to accommodate HEXADECIMAL PHONE NUMBERS as needed, just as the 231 exchange is expanded only as demand requires. And it is all free! All systems already work using HEXADECIMAL NUMBERS.

143. Then there is the 909/674 GTE exchange in the very small, but growing Lake Elsinore, CA. The population is so small that only 1000 to 1999 and 2000 to 2999 were ever built in this exchange. Line NUMBERS that begin with 0 or 3 to 9 do not exist, because of low population in the area of service. But, we still have HEXADECIMAL NUMBERS available in this exchange, since they are added to 10 0 0 to 1FFF and 20 0 0 to 2FFF. See how wonderful this system fits. No new anything to buy. Just plug in the line cards and connect up the lines. The system is fully HEXADECIMAL as it stands today.

144. WHO IS LISTENING TO WHAT - It is the job of phone company equipment to complete the call as dialed and maintain the connection until the calling party hangs up. All kinds of systems, voice mail, paging, alarms, etc. use the * and # and all the rest of the decimal and HEXADECIMAL digits to control the system they are connected to. Nothing in this proposal affects any of those systems.

145. The use of these digits in a phone number, as in 452-*703 is proper and does not cause any problems because during the time dialing is being done, only the digits are being captured and extracted as a viable phone number that is to be completed. Having said that, there is a problem at some levels in every system.

146. AVOIDING PUBLIC CONTROL CODE EXCHANGES - Suppose you are making a call from 415 and you are in the local calling area of 415. You do not need to dial the area code, just the 7-digit number. But suppose you dial 70 for a call-duration-block of call waiting. Clearly this would pose a problem if their were a prefix of *70-9456 in existence in the 415 area

code. Unless of course, we impose precise time completion requirements between the digit 0 and the digit 9 of the number or optional area code.

147. But, here again, this is a Public HEXADECIMAL number that could be assigned only to computer dialing equipment that does it's dialing in a fast string, with none of the delays we humans could make while completing the dialing. An Example of programmed delay is the delay in action when you dial the 0 for operator. Try it! If this possible delay were eliminated, the calls would be processed without a problem. But with so very many numbers available today, we can afford to not use *7x prefixes for the foreseeable future. This is a study item.

148. OPTIONAL AREA CODE - For travelers using their portable dialers or computer dialers, staying at a hotel in San Francisco, when they want to dial the office or their voice mail in Texas, the computer has a problem. It does not know they flew to San Francisco, so it dials only the prefix not the area code and the prefix. This is the way most programs work and several work arounds having been made, but no one has done the obvious: make the dialing of the area code optional for calls from within the area code.

149. So I want to call 415/234-9012, since I am now in 415 at a hotel, I need only dial 234-9012, because the call is a local call from there, but when I was in Texas, I trained my Macintosh computer to dial 415/234-9012. Being the obedient servant that it is, it dials the area code before the number prefix. This gets me a reject recording for no good reason. So why not make the area code optional for calls from within the local calling area? I can program this feature myself and I am sure the Phone Company can too. See how simple life could be with just a little help from our bell system friends!

150. The concept of optional area code dialing for calls from within the area code lends itself to yet another advantage besides the traveler's communications convenience. Nationally recognized numbers, such as 911, 0 and 1 and 411 are among those that come to mind with under use or no use

at all. For example, 1-619/014-3456 and 1-619/123-0987 are known as the zero hundred and one hundred number prefixes, but there is no reason not to consider 1-093/194-1234 and 1-115/003-9213 as well, and these are known as the one hundred and zero hundred area codes.

151. We can not and should not waste 25% of the available numbers just because some restrictions have to be placed on their secondary usage. No good reason exists for not using these and you all know the reasons for using them. The question is how to implement this concept and what should be the restrictions.

152. Why shouldn't 911-1234 be perfectly good for emergency phones? We can't dial into these phones anyway, but if we try, we will get the primary use, 911 for an emergency call. This is as it has been planned and is in effect throughout the North American system. But there is one very big number of emergency phones, along the freeways, in elevators, on bridges, you name it, they are there and again I do not object in any way to this usage. What I do object to is the waste resulting from the habit of considering these numbers to have only a primary use and once that is done, there is no secondary use for the numbers. This is foolish business. Use these numbers in applications that do not affect the integrity of the primary usage, yet do allow for secondary usage.

153. In the case of 911, of the 65536 HEXADECIMAL or as it stands today, 10,000 numbers in the decimal system that are available, we only use 1 of the numbers, 911 which is translated just like the toll free 800 numbers to a substituted in pots number and then the call is completed. So why not make the substituted number 911-2345. This number does not have a problem being dialed at that phone company network level and it represents a change from total waste to moderate usage of, at the very least, 10,000 numbers. More importantly, it frees up what are the otherwise used public decimal numbers for public reassignment.

154. Then we have the 100 and 000 problem. This is still a good application for a multitude of services. In every case where the person

does the dialing, any pause between the digits during dialing will render such application marginal, but this is simply not present when these numbers are computer dialed. All kinds of applications exist, including computer modem dialing to the Internet provider.

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155. --- APPLICATIONS ---

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156. BACKGROUND OF AUTHOR - While teaching electrical engineering for 23 years, I also owned a small alarm business and was the primary sales person for it. Calling on thousands of people for sales purposes, one develops a perception about what people say and do, and after a time, it is possible to "read" people.

157. During the last 15 years, I have written letter after letter and made call after call to all parties: FCC, CPUC, and all the many PHONE companies about the possibilities of using HEXADECIMAL NUMBERS as PHONE NUMBERS for "not-dialed-by-people" applications.

158. Now, with the existence of home computers, email, and web access, they all permit us to communicate easier and faster. I have sent email and completed numerous questioners about the issue of HEXADECIMAL NUMBERS, but I have never received a single reply! As I pointed out, I read

159. People reasonably well and I smell a rat! Ask your self: "What other explanation is there?"

160. My reasons for contacting the PHONE companies was partly because the PHONE companies kept telling the alarm INDUSTRY that new charges would be made for using the toll free 800 NUMBERS. This INDUSTRY uses millions of toll free NUMBERS for the transmission of security and fire alarm signals, as well as hold up and health emergency events. Alarm companies do not want people to be able to dial these NUMBERS because they terminate in their computers and admittedly it is a low risk overload possibility,

but it could cause problems and prevent or slow the reception of alarm signals. We don't want the burglar to call the DECIMAL PHONE line NUMBER to try to defeat the emergency outgoing call to the monitoring station. So using a PRIVATE HEXADECIMAL NUMBER is actually a good idea, because it drastically cuts down on the ability to dial these NUMBERS from a Pacific Bell pay PHONE or any other phone! The alarm INDUSTRY would embrace the use of HEXADECIMAL NUMBERS over DECIMAL NUMBERS, any day!

161. There are dozens of other applications that may use HEXADECIMAL PHONE NUMBERS. They include, elevator phones, highway phones, pagers, faxes, all second and above NUMBERS in a multiline business or PHONE bank, computer access NUMBERS, point of sale, credit card verification, and so on.

162. TOUCH-TONE AND YOU - Some 20 years ago the FCC ordered every user of telephone service to pay a small monthly fee for the then new touch-tone push button PHONE system. This system is a 4x4-button system, not the 3x4 buttons you have on your PHONE today. The DECIMAL Phone Numbering system consists of

163. 1,2,3,4,5,6,7,8,9,0 but the HEXADECIMAL system goes on with Ø, 1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. All computers use this Numbering system and the PHONE system uses computers to provide PHONE service. We all paid for this HEXADECIMAL NUMBERING system, yet we got only the DECIMAL system. Do you smell a story about fraud? How many billions did we all pay for this system?

164. As our American PHONE system is presently configured, we have as an example, 619/231-1313, my PHONE NUMBER. The 619 is the area code. The 231 is the prefix. The 1313 is the line NUMBER. Using ONLY the line NUMBER and contrasting the DECIMAL and HEXADECIMAL possibilities we find that there are 10,000 NUMBER possibilities. But by using HEXADECIMAL NUMBERS, there are 65,536 NUMBER possibilities. That is 55,536 extra PHONE NUMBERS for FREE. No new area codes needed! A HEXADECIMAL PHONE NUMBER would look like 619/231-F3C1.

165. The PHONE system already works using HEXADECIMAL NUMBERS, so nothing is required to expand further into the HEXADECIMAL NUMBER system. We already use HEXADECIMAL A, B, and C as the buttons 0, *, and #.

166. Using the HEXADECIMAL NUMBER system will extend the life of the PHONE NUMBER system by some 100 plus years. The DECIMAL NUMBER system is currently projected to expire in less than 20 years.

167. HEXADECIMAL NUMBERING SYSTEM - A simple numbering system:

168. Hex (Ø , 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F)

169. The 2 digit: 10, 11, 12, 13, 14, 15 NUMBERS have been replaced by the first letters of the alphabet, which are single letters. This keeps all 16 symbols single digit.

170. The proper utilization of NUMBERS in the existing system is essential and proper. But there are two flaws:

171. One is the steadfast refusal to assign the 0xx and 1xx prefixes and the continued failure to make use of the 911-xxxx exchange and the 611-xxxx exchange and so on. These are all assignable, provided a specific procedure is followed. Some of the assignment possibilities for 0 and 1 that will not cause problems with 0 for operator and 1 for toll call access are to use these as NUMBERS for Freeway Call Phones and "translated-to" NUMBERS as in 911. In other words, there must be a real effort to make assignments in 0xx and 1xx since they and 911/611/411 etc. represent 20+% of the NUMBER assignments available in an area code, and this is simply too high a figure to be ignored.

172. The other flaw in NUMBER assignment is the failure to realize that built in to this system, but deliberately prevented from being used, is the fact that more than the digits 1 to 9 and 0 exist. We have a base 16 number system not a base 10 number system. The actual range is Ø to 9 and A to F. This gives rise to NUMBER assignments that look like this:

2EC-8B9D, or 23A-4BB2. When the touch-tone system was invented, 16 buttons were provided, but only 12 are on the Public's Phones. The missing columns to the right.

173. HEXADECIMALS AS IN 6 EXTRA - The availability of the 6 digits provide for additional NUMBER assignments of 6/16th or about 37.5%, but this figure will have some burden amounting to a minor reduction in the final analysis. Even so, the PUBLIC has the right to expect the full and complete utilization of this existing numeric resource within the established numeric format, and that fully complies with NANP.

174. AGED ATTITUDE - This is even more essential when it is realized that it is free. Nothing need be changed to use these NUMBERS, save the line cards at the Switch Room and the formal dislodging of the old, outdated attitude of Pacific Bell and all the other phone companies.

175. You can be sure, they will fight and outright refuse to proceed, claiming all sorts of costs, all of which are motivated by money. Keep in mind, when Pacific Bell comes up with a new area code, you just think no extra charges apply, but hidden in all this is the requirement that new yellow pages and new white pages will have to be produced. Now, who will pay for these extra ads? You got it, we will pay with increases in business costs. Clearly, this issue of the unnecessary proliferation of area codes in America and that they amount to a significant source of peripheral revenue for the PHONE companies will reverberate for some time to come.

176. PROOF EXTRAORDINARY - Some application of the HEXADECIMAL system is in full use and has been for more than 30 years. All alarm systems, fire, burglary, holdup etc. transmit over the national and local network in HEXADECIMAL and have HEXADECIMAL NUMBER identification assignments.

177. As a side comment, the costs of digital alarm equipment in the last 10 years have plummeted by figures of \$265.00 to \$79.95 with triple the features added.

178. How come the PHONE bill is going up when the other business services are going way down? How come the price of call forwarding is \$3.50 yet it costs nothing to provide. Even the 7 lines of computer code that makes it work are the highest revenue producing computer code in the world by several hundred thousand percents.

179. How come the Voice Mail Computer costs less than \$3,000. in total, yet produces 5x that in income per each and every month. Now, to prevent competition, the CPUC has allowed them to charge extra for call forwarded messages, effectively preventing free competition in the voice mail field. Are you sure they are protecting us from them, or what? Those lobbyists sure know how to party.

180. The idea of assigning HEXADECIMAL NUMBERS for PUBLIC use is very reasonable and should be implemented immediately. Of the many applications, here are a few.

181. HEXADECIMAL NUMBER APPLICATIONS - Explore this list of use areas:

- 182. 800/888 Toll Free Translator Numbers
- 183. Alarms, Fire, Burglary, Holdup Systems
- 184. ATM Systems
- 185. Automatic Paging Systems
- 186. Bulletin Board Computer Systems
- 187. Call Box Signaling Systems
- 188. Computer Access Phone Numbers as for AOL etc.
- 189. Computer Access Second Line at Home
- 190. Corporate Systems
- 191. Credit Card Verification and Approvals
- 192. Elevator Phones
- 193. Emergency 911 System Phones
- 194. Freeway Emergency Phones
- 195. Internal Voice Mail
- 196. Military Communications

197. Pager Phone Services
198. Pay Phone Service
199. Phone Company Business Offices and Repair Service
200. Point of Sale Transactions
201. Public Voice Mail
202. Rotary Lines Second and Above (2-??) (UAL: 1 decimal, 999 HEXADECIMAL)
203. All of the above should be HEXADECIMAL NUMBER based.
204. NETWORK IS INTACT, NO CHANGES ARE NEEDED - As proof, alarm signals are transmitted daily, in Hex, and have been for many years. The collective total savings in NUMBERS (20% from 0xx and 1xx) and (37% from Hex) represents about a 50% block of not used or under used NUMBERS that fit the profile already established for the nation-wide network in EACH area code. 50 PERCENT, 50!!!!!! No business or government can in good faith waste 50% of what is now a NATIONAL RESOURCE.
205. PUBLIC EXAMINED UP CLOSE AND PERSONAL - Transparent to the general public, but no one should reply to this issue with the comment that it is too complicated or that the general PUBLIC will be confused, as nothing could be farther from the truth. There are three reasonable classifications of the PUBLIC: General, Enlightened, and Technical. The general PUBLIC will never know this system is in use, except that no more new DECIMAL area codes will become known to them, and for that, they will be very pleased!
206. GENERALLY SPEAKING - the PUBLIC will never dial a hex PHONE NUMBER, except for PUBLIC HEXADECIMAL NUMBERS for paging or faxing or voice mail access etc. in which case, users are in fact, no longer the GENERAL PUBLIC, but are ENLIGHTENED PUBLIC with some abilities beyond their general PUBLIC counter parts.
207. ENLIGHTENED PUBLIC - These same people will encounter PHONE menus directing them to press 1 and #3 and * to start over in a PHONE

menu, so directing them in the first place to dial a PHONE NUMBER like 23#-1234 or 458-*123 is simply not a problem. And this enlightened PUBLIC classification includes personal computer users, who only program their America On Line dialer window, as an example, to dial a PHONE NUMBER that has been provided by AOL as the NUMBER to be inserted in the space provided. It is folly to think that these same persons will somehow develop fright over changing a PHONE NUMBER from 234-5678 to 23F-1DCB using their computer keyboard for the one-time entry of the NUMBER that will last for the next several years of service. These NUMBERS are saved and dialed by the program, forever, until changed by human intervention or by aliens blasting us with rays not yet know to humanity.

208. TECHNICALLY EXPERIENCED PUBLIC - These are technically experienced persons, such as alarm technicians, PHONE installers, point of sale installers, etc. that are already trained in HEXADECIMAL NUMBERS from their education in set theory and technical computer jargon, so they will have no problem using the full range of HEXADECIMAL charters and the resulting codes required for any application we may conceive. Programming of these systems fall within the PRIVATE HEXADECIMAL NUMBER category and is accomplished by the technical PUBLIC. Telephone installer test sets include all HEXADECIMAL digits and are available off the shelf, today, for merely \$10 extra.

209. PUBLICLY SPEAKING FROM MY SOAP BOX - Dan Quayle, a man with a special affinity for the "e" on the end of his name, can say things I can't or won't so it is fair that I say things he will not. The best description for the functioning of the FCC is outrageous. It is outrageous that the PHONE bills go up when all other computer based services go way down. For example, the alarm control panels did cost \$350 to \$500, now they cost \$80 and have dozens more and better features. Call waiting costs nothing to implement and can be programmed in less time than it takes to drink a beer, yet CPUC allows the PHONE company to rape the PUBLIC with the outrageous charge of \$3.50 per month. And it goes on and on, clearly those responsible for protecting the PUBLIC interest deserve a grade of F and this fact is finally, at long last, becoming the subject of

legislation in California.

.10. CALIFORNIA ENACTED POOR QUALITY LAW - Without any professional communications engineer's advice, the California Senate committee proceeded to enact Assembly bill AB818 Area Codes. This process was broadcast over the Internet so that all of us could hear the lack of meaningful discussion, and complete kowtow to the phone companies! Now you know what the second highest expenditure lobbyist group gets for their money.

211. There was not one person with any knowledge of this HEXADECIMAL proposal. Although, this issue was sent to every member of the committees and to the author of the bill and to the Chairwoman. Now you know why we have so very many dumb laws. Just ask the public!

212. On the other hand, some Senators demanded that California simply ignore the FCC altogether. The point being, if you are in charge of this, then do your job or we will do it for you. And, finally the point was made, 'JUST DO THE RIGHT THING.' So here it is, the right thing, it is to immediately introduce HEXADECIMAL numbers to both the California and National system. The NANP is intact, and these additional numbers are fully compliant. JUST DO THE RIGHT THING!

213. OBSOLETE EQUIPMENT - Nothing in this proposal creates or causes any equipment to become obsolete. It is true that some new features will require new equipment, but this is exactly one of the reasons for our urgency claim for proceeding with haste.

214. The telephone on your desk or at home and the pay Phones and PCS, analogue and digital cellular Phones (some cell Phones display true HEXADECIMAL today, check the display when you push the 0 and the # and the *), all Phones will still have the 3x4 dial you are familiar with today. It will still allow you to dial all DECIMAL PHONE NUMBERS and it will still allow you to use the control features embodied in *70, etc., and voice mail controls as in # and or * and all the DECIMAL digits that you

routinely use today.

15. In addition, this same PHONE pad will allow you to dial PUBLIC fax, PUBLIC pagers, PUBLIC voice mail, and other PUBLIC designated services. These classifications are PUBLIC HEXADECIMAL NUMBERS and do require the use of the # and * somewhere in the NUMBER. Just in case you still don't understand, the # and * are on every dial and are HEXADECIMAL. A phone number that has either the # or the * in it, is a number that must be related to the Technology-Specific or Service-Specific Area Code.

216. As for the PRIVATE HEXADECIMAL PHONE NUMBERS, we don't want you to be able to dial these NUMBERS. This is a part of the whole scheme of things we assert herein. No need for pay PHONE blocking on toll free NUMBERS that are PRIVATE HEXADECIMAL NUMBERS. No more vandalism calls or annoying calls to the alarm computer because this INDUSTRY will flock to the PRIVATE HEXADECIMAL NUMBERS, as it is a clear advantage, a good business choice.

217. No one can expect equipment manufacturers to produce equipment without firm understandings about what is available from the PHONE system. There will be some items of equipment that will only work on some digits and others on still other digits. I have been in contact with several manufacturers about this issue. Some say they are not sure and don't want to spend the money, because it's your move first.

218. EQUIPMENT MANUFACTURERS WILL COMPLY - As soon as the orders are issued and the phone company can demonstrate the numbers are on and operating, every manufacturer of equipment indicated they would make the changes required to their various pieces of equipment, so that they could take full advantage of the Private HEXADECIMAL Phone number group.

219. I contacted several companies: AOL will move when the system is working, ADEMCO, FBI, and DSC Security will produce "HEX READY" equipment as soon as the system is operating and there is demand. Everyone I have contacted is excited about this Proposal and will cooperate on a prove-it-

is-working basis, and then, they will make the equipment needed.

20. URGENT REQUEST FOR TEST LINES - Nothing can be tested for application without the existence of test lines. Urgent request is made for establishing a test location in San Diego at 619/231-123(B=*), 619/231-123(C=#), 619/231-123D, 619/231-123E, 619/231-123F, 619/231-123(Ø =true zero).

221. These lines should have recordings that say: "Hex test line B star was successful" then repeat the message until caller hangs up. This is to be repeated for lines (*=B), (#=C), D, E, F, and Ø (true zero) so that modem computer calls, alarm calls, point of sale calls, pager calls, and voice mail calls can each confirm success with their PRIVATE equipment using the full HEXADECIMAL system. These lines should be setup so that no toll is reported to the caller's bill.

222. Modem tests (and all other types) will confirm that the modem can dial the test NUMBERS by having the tester person listening in on the line and making confirmation aurally. This is simple and avoids the need for specific "receiver" types of equipment attached to several lines that will "fully function" based upon which system is being tested, which would be beyond reason to ask Pacific Bell to provide. This method will allow 99.9% testing of all systems without the need for having a alarm receiver on the line or a point of sale receiver on the line and so on, which would of course, provide 100% testing.

223. After confirmation of the abilities of equipment to dial the hex NUMBERS, manufactures will begin ordering their customer's lines and start using the hex NUMBER PHONE lines, freeing the existing DECIMAL NUMBER PHONE lines for assignment to the PUBLIC.

224. Keep in mind, the Savings Account story, it will take years for users to migrate to hex NUMBER usage, but it will not begin to happen until we open the gates.

225. ALLEGIANCE TO NO ONE - The PUBLIC owes the Telephone Company nothing. We have allowed our alleged agency to sleep as the PHONE Company comes begging for the PUBLIC to pay for equipment properly the obligation of the PHONE Company. Touch Tone should never have been charged to the PUBLIC. Buy it yourselves!

226. Gas stations were told you will change or close. They went out and paid for the required improvements so why should the PHONE company even ask for payment. Go do it yourself. I have been a visitor at several telephone company establishments. We owe you nothing, living so high on the hog, plush elegant surroundings, If the PUBLIC knew how lavish your offices are, they would be furious with such wastes of our hard earned money to pay for the PHONE bill each month.

227. NUMBER SYSTEM DESIGNATIONS - we need a simple way to designate the NUMBER set we are talking about in this proposal for rule making.

228. This is a problem because the NUMBERS used in the PHONE system are said to be "dirty." This stems from the problems resulting in mixing pure DECIMAL sets with partial DECIMAL sets and partial HEXADECIMAL sets and pure HEXADECIMAL sets. It sounds more complicated than it really is for the average person.

229. The set we call pure DECIMAL is: \emptyset , 1, 2, 3, 4, 5, 6, 7, 8, 9.

230. The PHONE set is: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0=A, *=B, #=C.

231. The set we call pure HEXADECIMAL is: \emptyset , 1, 2, 3, 4, 5, 6, 7,
8, 9, A, B, C, D, E, F.

232. Note the use of \emptyset as true zero, 0=A=10, *=B=11, #=C=12 and the significance of location (where is the zero) in the set string of these characters. So, how to deal with these without requiring full definitions in every line of text?

233. I will refer to DECIMAL NUMBERS as: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0=A, the present NUMBER assignment set now in use.

234. I will refer to PUBLIC HEXADECIMAL NUMBERS as: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0=A, *=B, #=C, the proposed, limited use of a partial HEXADECIMAL NUMBER set, all of which are on the existing PHONE pad.

235. I will refer to PRIVATE HEXADECIMAL NUMBERS as: Ø , 1, 2, 3, 4, 5, 6, 7, 8, 9, 0=A, *=B, #=C, D, E, F, the proposed full use of the HEXADECIMAL set. All characters are not on the PHONE pad, but can be used and programmed in various ways by several types of equipment.

236. HOW PUBLIC AND HOW PRIVATE - The terms PUBLIC and PRIVATE do not mean that these are somehow truly PRIVATE NUMBERS. It is just a way to simplify what is being talked about in a simple and convenient way.

237. The proposed INDUSTRY classification of service will be tariffed for both PUBLIC and PRIVATE HEXADECIMAL NUMBERS. All you get is a PHONE line with a dial tone. No other services (411, yellow pages) or features (call waiting) are to be provided in this class of service. Call forwarding should be available for safety reasons.

238. CONTAMINATION DEFINED - A NUMBER is HEXADECIMAL if any part of it is HEXADECIMAL! So if the area code added as an overlay in the 213 area is 21F or the area code added to 415 is 41* then all, ALL NUMBERS under this area code are HEXADECIMAL, even when the NUMBER looks like 231-1313. All these NUMBERS exist, but never have been used. If the prefix and line NUMBER assignments are DECIMAL NUMBERS (which would be a simplification, by assigning these first) then we have just created 8 million new, never before used NUMBERS outside the DECIMAL area codes humans use. If the prefix and line NUMBER assignments are HEXADECIMAL NUMBERS then we have just created 268,435,456 lines for each area code. The general PUBLIC will never know about or use these NUMBERS. This is a profound realization you must embrace.

239. AB818 BACKGROUND - The author introduced this bill due to concerns over the proliferation of area codes in the last few years. The

NUMBER of area codes in California has doubled since 1991. Today, telephone NUMBERS are only assigned in blocks of 10,000 to the telecommunications service providers who request them. This is the case whether the service provider has 10 customers or 9,500 customers in the area served by that block of 10,000 NUMBERS. The federal Telecommunications Act of 1996 delegated full jurisdiction over "Numbering" issues to FCC. FCC has delegated to the states limited authority to implement area code relief by doing one of the following: a) ordering an area code split; b) ordering an overlay; or c) realignment of an existing area code boundary.

240. Last month, at long last, the CPUC filed two petitions with the FCC seeking additional delegation of authority in order allocate NUMBERS more efficiently and thus decrease the need to create new area codes in the state. The Technology-Specific or Service-Specific Area Code request to the FCC is exactly what this Hexadecimal Numbering System requires. But, why did it take you 15 years to request it?

241. And, how come numbers are not assigned on an individual basis, the same as is done with toll free numbers. I had toll free numbers in the early 1970s. The Phone Company decided on the number, based upon an elaborate formula. Today we select the number and the provider without interference or restriction. Now that we have advanced to this point, it is remarkable to again hear about all the restrictions and bulk (10,000) assignment requirements. I suspect this is fraudulent, a diversion to delay competition from advancing. Clearly, no one will change their business number to a different number as a requirement to conduct business with a different provider. This is not even a possibility, so why are they denying access? Follow the money!

242. HEXADECIMAL SOLUTION PERSPECTIVE - No one else has offered any solution anywhere near the effectiveness provided by INDUSTRY Service and HEXADECIMAL PHONE NUMBERS. This solves the NUMBER crunch and significantly extends time to the expected exhaust of NANP to nearly 100 plus years.

243. Historically, the uses of HEXADECIMAL NUMBERS, still in application today, may require some correction of bad choices previously made, if we are to realize our full potential goal of using all the NUMBERS available on the network. Contamination of NUMBER base must stop. Today we use the "0" zero which is actually a 10 or in hex, an "A." And the "*" is eleven or in hex "B," then the "#" is used also, but true zero or zero slash is not used. These will continue to be used, and be expanded in their use, in this hex proposal.

244. We must require better utilization of this resource. The mandatory conservation of the broad spectrum of NUMBER applications in the North American Numbering Plan of the telephone INDUSTRY is no less significant than the very same practices of the Federal Communications Commission in regards to the Electromagnetic Spectrum for radio and television. Of course, this explains the absents of channel 1 on your TV, he said with a twinkle in his eye!

245. Significantly, INDUSTRY Service providing PRIVATE HEXADECIMAL phone numbers will be specifically denied publication and directory assistance services, as these "hex" NUMBERS are somewhat PRIVATE and are to be used by automatic equipment, not "digitally" dialed by a person, but rather by computers, alarms, point of sale reporting, and a multitude of other automated applications, and also used in NON-PUBLIC voice applications that may be "field" dialed as highway emergency Phones and elevator Phones, among others. These are NOT Vanity PHONE NUMBERS, but Hex NUMBERS.

246. Nothing will preclude the INDUSTRY PRIVATE use as in an "order" line for Circuit City stores ordering from their warehouse without PUBLIC interference as always develops in time with PUBLIC 800 NUMBERS, which then become clogged with "customers" inquiring about some concern they may have, even when given a PUBLIC 800 NUMBER to call for resolution of their issues. By using PRIVATE HEXADECIMAL NUMBERS for this application, almost no one will be able to dial the NUMBER even if they obtain it some way or

other, yet legitimate company use is automated by pushing a single button, after the button is programmed into their PHONE'S memory.

247. In high-speed modem applications, INDUSTRY Service will provide special services available only by way of HEXADECIMAL PHONE NUMBERS. By grouping these services into one specific area of the switch room, better services can be provided by the phone company as a result of the technical advantages offered by requiring "this dial up service on this line" located in "this" area of the switch room. Keep in mind, these numbers are never published, so number selection no longer matters, any old number will do for automatic equipment services.

248. If all America On Line customers and all other similar dial up network customers were REQUIRED to use hex PHONE NUMBERS for their access, then how many thousand PUBLIC NUMBERS would be freed for assignment for Business and Residence assignment? America On Line has not answered this question, so estimation is in order. In San Diego, could it be as high as 70,000 lines and growing, that is 7 prefixes saved and service is improved in the process, such a deal!

249. SERVICE SPECIFIC APPLICATIONS, WITH COMMENTARY AND ANALYSIS - As you know there are various kinds of service types available in California and the nation. This discussion will attempt to point out areas of conservation of NUMBERS that would apply to each service.

250. TOLL FREE - NUMBERS are provided by just about everybody including PT and GTE in state. All toll free NUMBERS, whether 800 or 888 or 877 or those newly proposed to be used 800/025 and 800/175 or 80C or 80D and so on; all these function in the same way. It is inexcusable for the PHONE Company to tell us that no 800 NUMBERS exist when they have not used 800/001-0000 for example. This is a perfectly good NUMBER group and should be assigned immediately. For simplicity, I will use just 800 in examples, but you must keep in mind, it applies equally well to all toll free area codes, including HEXADECIMAL toll free area codes.

251. The dialed NUMBER is translated to a pots NUMBER in a look up table at the call processing center and then the call is processed in the same way as all other calls on the network. Keep in mind, all NUMBERS in the toll free system are part of a national overlay that is broken down to a local NUMBER when it is translated. Some are terminated and some are dumped, more about this below.

252. If you dial 1-800/034-5678 or 1-800/100-9876 or 1-888/445-#123 the call will be "looked up" at the call processing center and changed or translated to, for example, a pots NUMBER: 415/345-6789, then the call is completed in the normal way all calls are handled on the network.

253. There are several places where NUMBER conservation is not being practiced. If you dial American Airlines toll free NUMBER, 1-800/433-7300 this is translated to 213/255-1911 and is processed. Notice the fact that a caller never knows that they are being connected to 213/255-1911 and also, they will never know that instead they are being connected to 213/F11-0000 which is a PRIVATE HEXADECIMAL NUMBER that does not consume PUBLIC NUMBERS in the 213 area code.

254. And what about second lines and so on. Were a caller to request the NUMBER for American Airlines in Los Angeles using 411, they would get the NUMBER 213/445-1000. This NUMBER has 999 lines behind it: 213/445-1000 to 1999, as an example. Why should the PUBLIC NUMBERS 445-1001 and so on be used? They should not! They should be PRIVATE HEXADECIMAL NUMBERS.

255. All NUMBERS in a rotary bank should be HEXADECIMAL after the first NUMBER, or pilot NUMBER, which is the only NUMBER that is advertised or published or listed on directory assistance. Here, the first NUMBER is 213/445-1000 all the rest are to be 213/445-D444 and 213/445-D445 and so on. This simple act of moving second and up NUMBERS to PRIVATE HEXADECIMAL NUMBERS will make the utilization of plant equipment much higher and conserve PUBLIC DECIMAL NUMBERS for PUBLIC uses. Keep in mind, we have only 10,000 PUBLIC NUMBERS in an exchange, but we also have 55,536 extra

HEXADECIMAL NUMBERS there also, all going to waste. Is it any wonder we now find ourselves in a number crunch?

256. Then there is the concept of a terminated line NUMBER and a dumped NUMBER. A very high percentage of toll free NUMBERS are used by the alarm INDUSTRY. This is true even in local areas, because there is a printout at the end of the month showing the exact time the call was placed to the monitoring station, and this can be used in court as very good evidence. Were the call to be received on a local line, no independent call time record would be available.

257. The alarm INDUSTRY greets the use of PRIVATE HEXADECIMAL PHONE NUMBERS with open arms as the advantages far out weigh other considerations. And the fact that this INDUSTRY has been using HEXADECIMAL NUMBERS for the last 25 years provides plenty of experience and know-how.

258. Toll free NUMBERS that are dumped onto local pots NUMBER are once again using PUBLIC NUMBERS where they should not be doing so for the conservation of NUMBERS to be effective. These local NUMBERS can and should be HEXADECIMAL NUMBERS.

259. Toll free NUMBERS that are terminated as a local pots NUMBER are also wasting the PUBLIC NUMBERS available. They can and should be PRIVATE HEXADECIMAL PHONE NUMBERS.

260. All these NUMBER translations are transparent to the user, so why not put all the translations in the HEXADECIMAL part of the available NUMBERS in every exchange. Keep in mind the black piano key concept earlier in this writing.

261. BUSINESS SERVICES NUMBERS - The 900 pay for services NUMBERS are exactly the same as the 800 NUMBERS discussed above, except you pay for these services. So they can be made to use HEXADECIMAL Numbered lines in the very same way.